UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/696,051	10/25/2000	Kenneth R. Owens	4910.00011	4425

45149	7590	02/04/2005	

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EXAMINER
PHUNKULH, BOB A

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>01 July 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

This communication is in response to applicant's 07/01/2004

amendment(s)/response(s) in the application of **Owens et al.** for

"Protection/Restoration of MPLS Networks" filed 10/25/2000. The

amendments/response to the claims have been entered. No claims have been

canceled. Claims 7-20 have been added. Claims 1-20 are now pending.

Claim Objections

Claim 1 is objected to because of the following informalities: in the amendment,

the applicant omitted the subject matter "at a first switching node of said working path"

in step e. It is not clear whether the applicant intent to delete the subject matter or

inadvertently omitted. Appropriate correction is required.

Claim 14 is objected to because of the following informalities: it appear to be

type where the first "working path" should have been the "protection path." Appropriate

correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by
another filed in the United States before the invention by the applicant for patent or (2) a patent
granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-5, 7-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Cao et al. (US 6,721,269), hereinafter Cao.

Regarding claim 1, Cao discloses an multi-protocol label switching system (MPLS) having a working path over which data is carried from a source to a destination and further having a protection path over which data from the source to the destination can be carried, a method of initiating an MPLS protection path switch over from the working path to the protection path comprising the steps of:

-detecting a failure on the working path at a first switching node of the working path (col. 3 lines 48-51);

-transmitting a failure notification message from only a first switching node to at least a second, switching node of the working path (if a failure is detected, a router that first detects the failure propagates the physical level maintenance to the source and sink routers, col. 3 lines 48-51);

-routing data from the working path to the protection path upon the receipt of the failure notification message at least one of: the second switching node an a third switching node of the working path(col. 3 lines 53-56).

Regarding claim 3, Cao   discloses the failure notification message travels along a path through the MPLS system, extending between the destination and the source (the source router and sink router, see col. 3 lines 53-56).

Regarding claim 4, *Cao* discloses a multi-protocol label switching (MPLS) system protection switch comprising:

a first data input port into which MPLS data is received from a data source (the data source connected to LSRS not shown in figure 1);

a first data output port from which MPLS data is sent to a second MPLS switching system comprising an MPLS working path (path S-A-B-E, see claim 1 and col. 6 lines 12-23);

a second data output port from which MPLS data is sent to a third MPLS switching system comprising an MPLS protection path (path S-C-D-E, see claim 1 and col. 6 line 12-23);

a second data input port adapted to connect to a path that follows the MPLS working path for receiving failure notifications;

whereby data received at the data input port from the data source can be selectively routed from the second MPLS switching system to the third MPLS switching system (see figure 1).

Regarding claim 5, *Cao* discloses the MPLS switching system of claim 4 further comprising a control input port whereat protection path failure messages are received from at least one the second MPLS switching system and the third MPLS switching system (see claim 1 and figure 1).

Regarding claim 7, *Cao* discloses the first switching node is upstream to the failure (LSRS, see figure 1 and col. 10 lines 21-41).

Regarding claim 8, *Cao* discloses the failure is an upstream failure and is detected by a node upstream to the failure (path S-A-B-E and detected by LSRA, see figure 1 and col. 10 lines 21-41).

Regarding claim 9, *Cao* disclose the failure is downlink failure and is detected by a node downlink to the failure (path S-A-B-E and detected by LSRB, see figure 1 and col. 10 lines 21-41).

Regarding claim 10, *Cao* disclose the failure is a bi-directional failure and is detected by a pair of nodes downlink and uplink to the failure (path S-A-B-E and detected by LSRS and LSRB, see figure 1 and col. 10 lines 21-41).

Regarding claim 12, *Cao* discloses a method for MPLS protection switching from a working path to a protection path comprising:

Transmitting a failure notification to a protection switch node along a path that follow the working path (see col. 3 lines 41-57); and

Routing data a the protection switch node from the working path to the protection path upon receipt of the failure notification (see col. 3 line 41-56).

Regarding claim 13, *Cao* discloses the failure notification is transmitted in a direction reverse to the working path (see col. 10 lines 21-41).

Regarding claim 14, *Cao* discloses the path follows the protection path mirrors the working path (see figure 1).

Regarding claim 15, *Cao* discloses detecting a failure (see col. 3 lines 49-51).

Regarding claim 16, *Cao* discloses the first switching node is upstream to the failure (LSRS, see figure 1 and col. 10 lines 21-41).

Regarding claim 17, *Cao* discloses the failure is an upstream failure and is detected by a node upstream to the failure (path S-A-B-E and detected by LSRA, see figure 1 and col. 10 lines 21-41).

Regarding claim 18, *Cao* disclose the failure is downlink failure and is detected by a node downlink to the failure (path S-A-B-E and detected by LSRB, see figure 1 and col. 10 lines 21-41).

Regarding claim 19, *Cao* disclose the failure is a bi-directional failure and is detected by a pair of nodes downlink and uplink to the failure (path S-A-B-E and detected by LSRS and LSRB, see figure 1 and col. 10 lines 21-41).

Regarding claim 20, *Cao* disclose the failure is detected by a pair of nodes

downlink and uplink to the failure (path S-A-B-E and detected by LSRS and LSRB, see

figure 1 and col. 10 lines 21-41).

Claim 6 is rejected under 35 U.S.C. 102(e) as being anticipated by *Cao* et al. (US

6,532,088), hereinafter *Dantu*.

Regarding claim 6, *Dantu* discloses a multi-protocol label switching (MPLS)

system comprised of a first MPLS protection switch having a data input port into which

MPLS data is received from a data source (the central network node, see figure 3);

a second MPLS switching system coupled to said first MPLS protection switch

via a first data path carrying MPLS data, said first data path comprising an MPLS

working path (either network node 312 or 320, see figure 3);

a third MPLS switching system coupled to said first MPLS protection switch via a

second data path capable of carrying MPLS data, said second data path comprising an

MPLS protection path (either network node 312 or 320, see figure 3);

an upstream reverse notification tree (RNT) data path extending at least between said

second MPLS switching system to said MPLS protection switch carrying data by which

a switchover from a working path to a protection path can be initiated (see col. 9 lines

8-33 and figure 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Cao* in

view of *Omuro* et al. (US 5,241,534), hereinafter *Omuro*.

Regarding claim 2, *Cao* fails to explicitly disclose that re-routing data from the

protection path to the working path upon the determination that the failure on the

working path has been corrected.

Omuro, on the other hand, teaches re-routing (change back) data from the

protection path to the working path upon the determination that the failure on the

working path has been corrected (see abstract).

Therefore, it would have been obvious to one having ordinary skill in the art at the time

of invention was made to implement the teaching of *Omuro* in the system taught by *Cao*

in order to restore the original path upon the restoration the path –where the original

path usually is cost efficient and shortest path.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any response to this action should be mailed to:

The following address mail to be delivered by the United States Postal
Service (USPS) only:

Mail Stop _____
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306, (for formal communications intended for entry)

Or:

The following address mail to be delivered by other delivery services
(Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolater, Hand
Delivery, etc.) as follow:

U.S. Patent and Trademark Office
220 20th Street South
Customer Window, Mail Stop _____
Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Bob A. Phunkulh** whose telephone number is **(571) 272-3083.** The examiner can normally be reached on Monday-Tursday from 8:00 A.M. to 5:00 P.M. (first week of the bi-week) and Monday-Friday (for second week of the bi-week).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor **Chau Nguyen**, can be reach on **(571) 272-3126.** The fax phone number for this group is **(703) 872-9306.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bob A. Phunkulh

BOB PHUNKULH
PRIMARY EXAMINER

TC 2600
Art Unit 2661
February 02, 2005